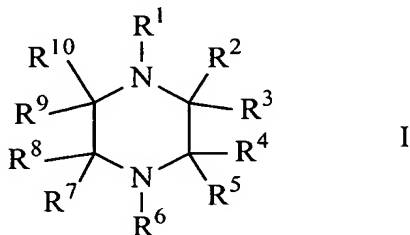


### ABSTRACT

An element for the attachment of protein arrays, the element comprising a surface to which are attached a plurality of piperazine functional groups wherein the piperazine functional groups are represented by Formula I:



where

R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, are hydrogen, alkyl, alkenyl, alkynyl, alkylhalo, cycloalkyl, cycloalkenyl, alkylthio, alkoxy, with the proviso that at least one of R<sup>1</sup> to R<sup>10</sup> be a non-labile chemical unit that attaches the piperazine functional group to the surface of the element.